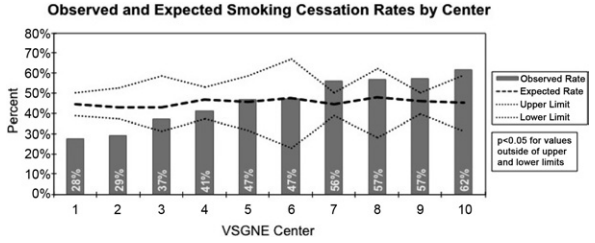

Fig.

Management of Isolated Calf Deep Vein Thrombosis: Is Treatment or Follow-Up Warranted

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Objectives: There is no consensus regarding the management of isolated calf deep vein thrombosis (DVT). The aim of this study is to determine the proper management of isolated soleal, gastrocnemius, peroneal, and posterior tibial vein thrombosis in an outpatient population. We further aim to identify the results of management of below the knee DVT (BKDVT) with serial ultrasound imaging during a 30-day period vs anticoagulation.

Methods: A retrospective review was conducted for records from January 2009 to December 2010 to identify patients with BKDVT. Trauma and inpatients were excluded from the study. Univariate and multivariate analyses were conducted as well as descriptive statistics of the data.

Results: The study included 225 outpatients with isolated BKDVT. The cohort consisted of 41% male, predominantly Caucasian (88%) patients, who were a mean age of 64 years. Thrombus was present most frequently in the soleal vein (40.3%), followed by the gastrocnemius (25%), peroneal (23.5%), and the posterior tibial vein (11.3%). Anticoagulation was used to treat 30.7% of initially diagnosed BKDVTs. No statistically significant difference was noted in the rate of proximal propagation ($P = .27$), or pulmonary embolism ($P = .70$) with or without anticoagulation. A decrease of new thrombus in additional calf veins was seen with anticoagulation, 1.4% vs 14.1% without anticoagulation ($P = .01$).

Conclusions: In an outpatient population, serial ultrasound imaging is adequate management for BKDVT. There is no significant reduction in the rate of pulmonary embolism or proximal propagation for patients managed with anticoagulation vs serial duplex ultrasound imaging for isolated calf DVT. Owing to the formation of new thrombus, serial ultrasound imaging is warranted in an outpatient population.

Vascular Surgery Attending Night Float Call System Improves Quality of Life Without Decreasing Productivity

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Objectives: Whether work hour restrictions have improved patient outcome is unclear. It is clear that fatigue eventually decreases performance. Complications for elective day surgery were significantly higher (6.4% vs 3.4%) when the attending surgeon had <6 hours sleep opportunity the night before (JAMA 2009;302). As today's residents become surgeons, with patient care and quality of life in mind, different mechanisms of call coverage may emerge. However, change in call coverage can only be considered if it maintains a high quality of patient care, improves surgeon quality of life, and preserves productivity. We recently revised our call system with these goals in mind.

Methods: In July 2011 the vascular surgeons (6 male surgeons, age 37-62 years) revised the call format. Previously one surgeon would take weekend call, and weekday call was then divided equally among the group. After the revision, weekend call remained unchanged. However, during the week, the person who was on call for the weekend is also now on call Monday through Thursday, nights only. There was no obligation for clinical activity during the day. Productivity was determined by comparing the group's work relative value units 6 months before and 6 months after the revision. In addition, each partner answered a Likert scale questionnaire (1 = strongly disagree, 5 = strongly agree).

Results: The productivity for the 6-month period before and after the call system revision and was unchanged. Mean total practice work relative value units per month were 4852 ± 564 before and 4772 ± 362 ($P = .41$) after the revision. Mean score was 4.5 in response to, "The new call schedule has improved patient care." Mean score was 4.66 in response to, "The new call system has improved your quality of life." Mean score was 4.83 in response to, "The group should continue this call system."

Conclusions: Vascular surgery remains challenging, with increasing expectations and decreases in reimbursement. Meeting these challenges often comes at the expense of one's quality of life. We have recently changed our call system to an attending night float. This has improved the quality of life while maintaining productivity. This system should be considered for vascular surgery practices.

Utilization of Motor-Evoked Potential Monitoring During TEVAR: Can the Incidence of Spinal Cord Injury Be Reduced?

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Objectives: This study reviewed the benefits of motor-evoked potential (MEP) monitoring in reducing the risk of spinal cord injury (SCI) during thoracic endovascular aortic repair (TEVAR).

Methods: We performed a retrospective study using a prospective database of all patients undergoing elective TEVAR at our institution. All patients underwent intraoperative MEP monitoring. The incidence of SCI and the benefit of using intraoperative MEPs was analyzed.

Results: Between December 2008 and December 2011, 105 elective TEVARs were performed in our institution. All procedures were performed under general anesthesia with intraoperative MEP monitoring. Sixty-two patients (59%) underwent concomitant performance of left carotid-subclavian bypass. Intraoperative MEPs showed a significant change in six cases (5.7%), all of which recovered with hemodynamic management and in two cases (1.9%) by using a cerebrospinal fluid drain. There were no instances of paraplegia or paralysis. One patient (0.9%) had a type I endoleak and six (5.7%) had a type II endoleak. The 30-day mortality for this cohort was zero.

Conclusions: Use of MEPs changed the management in 5.7% of our patients and was instrumental in preventing SCI in these patients. Using MEPs has allowed us to use cerebrospinal fluid drains on a selective basis rather than routine. MEP monitoring is an inexpensive modality that may help reduce significant morbidity and long-term mortality for this patient population.

Surgical Management of Vascular Trauma From Dog Bites: The 10-year Experience of a Level I Trauma Center

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Objectives: Vascular trauma from dog bites presents with a combination of crush and penetrating injury to the vessel, as well as significant adjacent soft tissue injury that carries with it an increased potential for infection. We present our 10-year experience in managing vascular trauma from dog bites to provide guidelines for treatment.

Methods: We identified 317 patients admitted with dog bites from October 2000 to August 2011 from our database. Twenty-one (6.6%) of these patients (n = 22 limbs) had vascular injuries requiring surgical intervention. Patient demographics, anatomic location of injury, clinical presentation, imaging, method of repair, and infection rates were reviewed for assessment of efficacy in preserving limb function. Pediatric patients were managed at the regional Children's Hospital and therefore not included in this study.

Results: Amongst the 22 surgically treated limbs, there were 20 arterial and seven venous injuries (6 of the 7 were combined injuries), 18 (81.8%) involved the upper extremity, and four (18.2%) involved the lower extremity. The brachial artery was the most commonly injured vessel (n = 11/27, 40.7%), followed by the radial artery (n = 7/27, 25.9%). Associated injuries requiring repair included muscle and skin (n = 12/21, 57.1%), bone (n = 5/21 23.8%), and nerve (n = 4/21, 19%). Surgical repair of vascular injuries consisted of resection and primary anastomosis (n = 6: 3 arterial, 3 venous), interposition bypass of artery (n = 15), and ligation (2 arterial, 4 venous). All patients had debridement of devitalized tissue combined with pulse lavage irrigation and perioperative antibiotics. Additional postoperative antibiotic therapy was administered for a mean of 15.9 ± 2.6 days. Five patients (23.8%) developed postoperative wound infections but this did not compromise their vascular repair. All 22 limbs (100%) were viable at discharge and remained viable at the 1-year follow-up.

Conclusions: Dog bite vascular injuries are associated with significant adjacent soft tissue trauma. Despite aggressive debridement and peri-operative antibiotic therapy, nearly one fourth of these patients sustained wound infections requiring prolonged antibiotic therapy. All infections were successfully managed with broad-spectrum antibiotics and all limbs were preserved at one-year follow-up.